

B. Claims

The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. (Currently Amended) A fabrication method of a mold for a microlens having a desired radius (R) of curvature, said method comprising the steps of:

(a) preparing a substrate at least a portion of which is electrically conductive;

(b) forming an insulating mask layer on the conductive portion of the substrate;

(c) forming an opening in the mask layer to expose the conductive portion of the substrate at the opening such that a diameter or width (ϕ) of the opening is $10\mu\text{m} \leq \phi \leq 0.35R$; [[and]]

(d) performing electroplating to form the mold with the desired radius (R) of curvature using the conductive portion of the substrate as a cathode to deposit a plated layer in the opening and on the mask layer; and

(e) terminating electroplating when the electroplated layer reaches the desired radius (R) of the curvature after forming a minimum radius (R_{min}) of curvature; wherein the plated layer forms a minimum radius (R_{min}) of curvature in said step (d) that is smaller than the desired radius (R) of curvature.

2-6. (Cancelled)

7. (Currently Amended) The method according to claim [[5]] 1, wherein said step (d) comprises causing a current to flow between the cathode and an anode plate in an electroplating bath and said step (e) comprises ending the current flow.

8. (Cancelled)

9. (Currently Amended) A fabrication method of a microlens having a desired radius (R) of curvature, said method comprising the steps of:

- (a) preparing a substrate at least a portion of which is electrically conductive;
- (b) forming an insulating mask layer on the conductive portion of the

substrate;

(c) forming an opening in the mask layer to expose the conductive portion of the substrate at the opening such that a diameter or width (ϕ) of the opening is

$$10\mu\text{m} \leq \phi \leq 0.35R; [[,]]$$

(d) performing electroplating using the conductive portion of the substrate as a cathode to deposit a plated layer in the opening and on the mask layer;

(e) terminating electroplating when the plated layer reaches the desired radius (R) of curvature after forming a minimum radius (R_{\min}) of curvature;

- (f) forming a mold on the substrate;
- (g) separating the mold from the substrate;
- (h) coating a lens material on the mold; and
- (i) separating the lens material from the mold.